

AMENDMENTS TO CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-20 (cancelled)

21. (previously presented) A timepiece, comprising:

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil, and the first coil has a winding core whose axial length is longer than a winding core of the second coil.

22. (previously presented) The timepiece according to claim 21, wherein a diameter of a winding wound around the second winding core is less than a diameter of a winding wound around the first winding core.

23. (previously presented) The timepiece according to claim 21, wherein each of the first and second winding cores has a winding which has a coating, and the coating on the winding wound around the second winding core is thinner than the coating on the winding wound around the first winding core.

24. (previously presented) A timepiece, comprising:

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil, and a diameter of a winding wound around the second winding core is less than a diameter of a winding wound around the first winding core.

25. (previously presented) The timepiece according to claim 22, wherein conductivity of the second winding core winding is greater than conductivity of the first winding core winding.

26. (previously presented) The timepiece according to claim 24, wherein conductivity of the second winding core winding is greater than conductivity of the first winding core winding.

27. (previously presented) A timepiece, comprising:

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil, and the width and thickness of the second winding core is less than the width and thickness of the first winding core.

28. (previously presented) The timepiece according to claim 27, wherein the second winding core is formed of a material having greater saturation flux density than a material from which the first winding core is formed.

29. (previously presented) A timepiece, comprising:

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively and first and second windings respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil;

wherein each of the windings has a coating, and the coating on the winding wound around the second winding core is thinner than the coating on the winding wound around the first winding core.

30. (previously presented) A timepiece, comprising:

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil, and a diameter of a winding wound around the second core tapers from thicker to thinner from middle part of winding to at least one end thereof.

31. (previously presented) A timepiece, comprising:

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil, and at least the second coil is shaped such that its axial dimension is substantially parallel to the outer periphery.

32. (previously presented) A timepiece, comprising:

a back cover; and

an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively;

wherein the second coil is disposed closer to an outer periphery of the timepiece than the first coil, and the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the back cover than the first winding core.

33. (previously presented) The timepiece according to claim 21, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

34. (previously presented) The timepiece according to claim 24, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

35. (previously presented) The timepiece according to claim 27, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

36. (previously presented) The timepiece according to claim 29, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

37. (previously presented) The timepiece according to claim 30, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

38. (previously presented) The timepiece according to claim 31, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

39. (previously presented) The timepiece according to claim 32, further comprising an oscillating weight rotating in a circumferential direction with respect to the outer periphery.

40. (previously presented) The timepiece according to claim 33, wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

41. (previously presented) The timepiece according to claim 34, wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

42. (previously presented) The timepiece according to claim 35, wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

43. (previously presented) The timepiece according to claim 36, wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

44. (previously presented) The timepiece according to claim 37, wherein the second winding core is offset in a downward direction relative to a location of the

first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

45. (previously presented) The timepiece according to claim 38, wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

46. (previously presented) The timepiece according to claim 39, wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

47. (previously presented) A timepiece, comprising:

- an electromagnetic transducer for converting one form of energy into another form of energy, the electromagnetic transducer comprising first and second coils having first and second winding cores respectively; and

- an oscillating weight rotating in circumferential direction with respect to an outer periphery of the timepiece;

- wherein the second winding core is offset in a downward direction relative to a location of the first winding core, so that the second winding core is located a greater distance from the oscillating weight than the first winding core.

48. (previously presented) The timepiece according to 47, wherein the electromagnetic transducer further comprises a magnetic conducting portion, a part of which is spaced apart from, and planarly overlapped by, a skirt portion provided on an outer circumference of the oscillating weight.

49. (previously presented) The timepiece according to claim 21, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

- a mechanical energy storage unit for storing mechanical energy;

- a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

50. (previously presented) The timepiece according to claim 24, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;

a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

51. (previously presented) The timepiece according to claim 27, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;

a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

52. (previously presented) The timepiece according to claim 29, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;
a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

53. (previously presented) The timepiece according to claim 30, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;

a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

54. (previously presented) The timepiece according to claim 31, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;

a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

55. (previously presented) The timepiece according to claim 32, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;

a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

56. (previously presented) The timepiece according to claim 47, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing mechanical energy;

a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit; and

an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

57. (currently amended) The timepiece according to claim ~~21~~49, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

58. (currently amended) The timepiece according to claim ~~24~~50, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

59. (currently amended) The timepiece according to claim ~~27~~51, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

60. (currently amended) The timepiece according to claim ~~29~~52, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

61. (currently amended) The timepiece according to claim ~~30~~53, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

62. (currently amended) The timepiece according to claim ~~31~~54, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

63. (currently amended) The timepiece according to claim ~~32~~55, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

64. (currently amended) The timepiece according to claim 47~~5~~6, further comprising:

a mechanical energy transfer unit, disposed between the power generator and the manual and automatic input portions, for transferring the mechanical energy stored in the mechanical energy storage unit to a rotor of the power generator.

65. (previously presented) The timepiece according to claim 21, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

66. (previously presented) The timepiece according to claim 24, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an

automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

67. (previously presented) The timepiece according to claim 27, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

68. (previously presented) The timepiece according to claim 29, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

69. (previously presented) The timepiece according to claim 30, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

70. (previously presented) The timepiece according to claim 31, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

71. (previously presented) The timepiece according to claim 32, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

72. (previously presented) The timepiece according to claim 47, wherein the electromagnetic transducer is a power generator for converting mechanical energy into electric energy, and wherein the timepiece further comprises:

a mechanical energy storage unit for storing the mechanical energy; and

a sequential arrangement of a manual input portion for manually inputting mechanical energy into the mechanical energy storage unit, an automatic input portion for automatically inputting mechanical energy into the mechanical energy storage unit;

wherein the manual input portion includes an external manipulation member, a portion of which extends radially outward from the outer periphery;

wherein the manual input portion including the external manipulation member and the automatic input portion are disposed on one side of the

mechanical energy storage unit and the power generator is disposed on the other side of the mechanical energy storage unit.

73. (previously presented) The timepiece according to claim 57, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

74. (previously presented) The timepiece according to claim 58, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

75. (previously presented) The timepiece according to claim 59, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

76. (previously presented) The timepiece according to claim 60, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

77. (previously presented) The timepiece according to claim 61, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

78. (previously presented) The timepiece according to claim 62, further comprising an energy storage display for displaying an amount of mechanical

energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

79. (previously presented) The timepiece according to claim 63, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

80. (previously presented) The timepiece according to claim 64, further comprising an energy storage display for displaying an amount of mechanical energy stored in the mechanical energy storage unit, the energy storage display being disposed between the mechanical energy storage unit and the power generator.

81. (previously presented) The timepiece according to claim 21, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

82. (previously presented) The timepiece according to claim 22, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and the winding wound therearound and the second stator portion including the second winding core and the winding wound therearound, the first and second stator portions being integrated through their respective winding cores.

83. (previously presented) The timepiece according to claim 23, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and its corresponding winding and the second stator portion including the second

winding core and its corresponding winding, the first and second stator portions being integrated through their respective winding cores.

84. (previously presented) The timepiece according to claim 24, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and its corresponding winding and the second stator portion including the second winding core and its corresponding winding, the first and second stator portions being integrated through their respective winding cores.

85. (previously presented) The timepiece according to claim 27, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

86. (previously presented) The timepiece according to claim 29, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and the first winding and the second stator portion including the second winding core and the second winding, the first and second stator portions being integrated through their respective winding cores.

87. (previously presented) The timepiece according to claim 30, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and the winding wound therearound and the second stator portion including the second winding core and the winding wound therearound, the first and second stator portions being integrated through their respective winding cores.

88. (previously presented) The timepiece according to claim 31, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the

second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

89. (previously presented) The timepiece according to claim 32, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

90. (previously presented) The timepiece according to claim 33, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

91. (previously presented) The timepiece according to claim 34, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and its corresponding winding and the second stator portion including the second winding core and its corresponding winding, the first and second stator portions being integrated through their respective winding cores.

92. (previously presented) The timepiece according to claim 35, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

93. (previously presented) The timepiece according to claim 36, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and the first winding and the second stator portion including the second winding

core and the second winding, the first and second stator portions being integrated through their respective winding cores.

94. (previously presented) The timepiece according to claim 37, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and the winding wound therearound and the second stator portion including the second winding core and the winding wound therearound, the first and second stator portions being integrated through their respective winding cores.

95. (previously presented) The timepiece according to claim 38, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

96. (previously presented) The timepiece according to claim 39, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.

97. (previously presented) The timepiece according to claim 47, wherein the electromagnetic transducer includes a rotor, and a stator comprised of first and second stator portions, the first stator portion including the first winding core and a corresponding first winding and the second stator portion including the second winding core and a corresponding second winding, the first and second stator portions being integrated through their respective winding cores.